News Clips for the Channel Islands National Marine Sanctuary Advisory Council[1]
July through September, 2014

1. Slowing ships down for cleaner air and whale protection

Source: Channel Islands National Marine Sanctuary, Santa Barbara Air Pollution Control District, and the Environmental Defense Center
Aug. 4, 2014

A coalition of government, non-profit and marine industry groups today announced the launch of a new trial incentive program to slow ships down in the Santa Barbara Channel in an effort to reduce air pollution and increase protection of endangered whales.

Six global shipping companies, COSCO, Hapag-Lloyd, K Line, Maersk Line, Matson, and United Arab Shipping Company are participating in the speed reduction incentive program from July through October. Selected ships in their fleet will reduce their speed to 12 knots or less (reduced from typical speeds of 14-18 knots) as they travel between Point Conception and the Ports of Los Angeles and Long Beach. Each company will receive $2,500 per vessel that passes through the Santa Barbara Channel.

The trial program is modeled after similar, successful programs at the Ports of Long Beach and Los Angeles, where 90 percent of shipping lines participate. The Santa Barbara County Air Pollution Control District, NOAA's Channel Islands National Marine Sanctuary and the Environmental Defense Center worked to develop and implement the program.

[1] *Articles shared specifically mention the sanctuary and/or are related to issues of known interest to the sanctuary advisory council. Any external opinions expressed within these articles do not reflect the views of sanctuary staff or NOAA, and sharing these stories does not indicate staff endorsement of views contained therein.*

Ship strikes are a major threat to recovering endangered whale populations. The ships also emit greenhouse gases and air pollutants, and account for more than 50 percent of ozone-forming nitrogen oxides in Santa Barbara County.

“Few people realize that ships off our coast, especially those moving at faster speeds, are a risk to endangered whales and the quality of the air we breathe,” said Kristi Birney of the Environmental Defense Center.

“Reducing ship speeds to 12 knots or less reduces emissions of smog-forming air pollutants that harm our health,” said Dave Van Mullem, director, Santa Barbara County Air Pollution Control District. “We are pleased to be part of this partnership to achieve common goals, and excited about the potential for improving air quality in our county.”

“Slowing ships down reduces the likelihood that a ship strike on a whale will be fatal,” said Chris Mobley, superintendent, Channel Islands National Marine Sanctuary. “We are extremely pleased with the positive response from the shipping industry to test non-regulatory, innovative approaches to protect human health and the marine environment while maintaining vibrant maritime commerce.”

The program has funding to support 16 transits and the initial response has been extremely positive. The coalition received more than 25 ship transit requests to be included in the trial and is seeking additional funding to expand the trial.

“The Pacific Merchant Shipping Association is committed to finding viable science-based solutions to both air quality and whale protection issues,” said TL Garrett, vice president, Pacific Merchant Shipping Association. “Our members are participating in this voluntary program in order to find sustainable strategies to reduce air pollution and greenhouse gas emission while providing enhanced protection for the whales off our coasts.”

Maersk Line representative, Dr. Lee Kindberg, director, Environment & Sustainability, North America, added, “The Santa Barbara Channel program is a logical extension of our other environmental initiatives. We appreciate this opportunity to help demonstrate the environmental and operational impacts of speed reductions in sensitive areas.”

The vessel speed program is supported by local and national foundations. The National Marine Sanctuary Foundation will manage the incentive payments with funding from the Santa Barbara Foundation and the Santa Barbara County Air Pollution Control District. Payments will be provided upon verification of the ships’ speeds through the Channel, using Automatic Identification System monitors that receive speed and location data from the transponders on ships as they transit.

2. NOAA expands Thunder Bay National Marine Sanctuary in Lake Huron

NOAA Office of National Marine Sanctuaries
September 5, 2014

NOAA today released a final rule and environmental impact statement expanding the boundaries of Thunder Bay National Marine Sanctuary in Lake Huron from 448 square miles to 4,300 square miles. The new boundaries now include the waters of Lake Huron adjacent to Michigan’s Alcona, Alpena and Presque Isle counties to the Canadian border.

The expansion is based on several years of research by NOAA and its many scientific partners, and now protects an additional 100 known and suspected historic shipwreck sites.

The expansion of the sanctuary was driven by strong public support. During the process to review the sanctuary's management plan in 2006, several local government and non-governmental organizations passed resolutions or submitted written letters of support for boundary expansion. Additionally, in 2007, the Thunder Bay Sanctuary Advisory Council adopted a resolution supporting expanded boundaries. NOAA held three public scoping meetings on this topic in April 2012 to hear from the community.

"The expansion of Thunder Bay National Marine Sanctuary represents an important milestone for the sanctuary and the region," said Jeff Gray, sanctuary superintendent. "We welcome the opportunity to expand our research and education programs to provide increased protection for the Great Lakes and their rich history. We are also excited to work with our community partners to further enhance sustainable tourism in the region."

Designated in 2000, Thunder Bay National Marine Sanctuary, headquartered in Alpena, Michigan, is one of 14 sites managed by NOAA's Office of National Marine Sanctuaries, and the only one in the Great Lakes. Co-managed by NOAA and the state of Michigan, Thunder Bay National Marine Sanctuary has become an important part of the regional economy. Through increased tourism and related business development, the sanctuary is working with various partners to encourage sustainable tourism and foster greater awareness of the Great Lakes and their rich maritime heritage.

Thunder Bay features some of the world's best-preserved shipwrecks, and visitors can explore these underwater sites first-hand through diving, snorkeling and kayaking. Drawing more than 80,000 visitors annually, the sanctuary's Great Lakes Maritime Heritage Center, also in Alpena, features more than 10,000 square feet of interactive exhibits and has become a major tourism destination in the region.

3. Glassy, bluish jellies washing up by hundreds on local beaches

By Cheri Carlson
Aug 19, 2014
Ventura County Star

Small, bluish-colored jellies are causing a bit of a sensation as they wash up on beaches up and down the Pacific Coast. By-the-wind sailors, also known as velella velella, are small jellyfish-like creatures usually found out in the ocean, far offshore. But wind and warm water have brought heaps of them shoreside this year from Oregon to Southern California.

In Ventura County, lifeguards, surfers, boaters and other beachgoers have reported hundreds of them on local beaches and floating in currents miles offshore.

"They showed up on the beach about a week ago," said James Bray, a lifeguard supervisor for Ventura-area state beaches. They haven't caused any problems, but people have been curious, he said. The unfamiliar jellies have created "a neat, interpretive experience" for locals.

This weekend, people even spotted them by the Santa Monica Pier.“They have been washing up since the weekend,” said Tara Crow, programs manager for Heal the Bay’s Santa Monica Pier Aquarium.

They aren’t a true jellyfish, but a close relative. And wherever the wind blows, that’s where they’re headed. “They have a beautiful blue, purple color,” said Bill Peterson, a senior scientist with the National Oceanic and Atmospheric Administration. Peterson, who works for NOAA Fisheries in Newport, Oregon, said not much is known about by-the-wind sailors.

Its bright color helps protect it from the sun as it floats on the surface of the ocean, he said. Shaped like a tiny boat a few inches long, each has a little sail about 1.5 inches tall that allows it to be scooted around by the wind. By-the-wind sailors are seldom found on beaches, but finding them washed up there definitely isn’t rare, Peterson said.

Finding a few every year is typical. What’s different this year is the number, he said. Warm water off the coast has brought more by-the-wind sailors to the area. That, mixed with a wind storm, brought them to the coast. Several years ago, even more showed up along the Oregon coast, Peterson said. “There were huge piles of them, 2 or 3 feet thick,” he said.

By-the-wind sailors do sting, but because they have such small stingers, people likely wouldn’t feel anything. The stingers aren’t long enough to penetrate down to someone’s nerves. “I’ve been encouraging people to pick them up and explore them,” Crow said. But if the stingers are intact, someone with sensitive skin could get an irritation. So avoid them if you have sensitive skin, and don’t touch one and then touch your eyes, she said.

Crow has been with the aquarium since 1999. Since then, she has seen by-the-wind sailors show up a few times. This is only the second large event, she said. “It’s really exciting for me,” Crow said. “It’s a great reminder of how much life there is out in the ocean and all there is to see.”

4. Updated “Whale Alert” *iPad, iPhone* app invites public to contribute to protection of West Coast whales

NOAA Press Kit
September 11, 2014

Mariners and the public on the U.S. West Coast can now use an iPad™ and iPhone™ to help decrease the risk of injury or death to whales from ship strikes.

Whale Alert a free mobile application originally developed in 2012 to help protect endangered right whales on the East Coast, has been updated with new features to provide mariners in the Pacific with the most current information available about whale movements and conservation initiatives.

The app uses GPS, Automatic Identification System, Internet and NOAA nautical charts to provide mariners with a single source of information about whale locations and conservation measures that are active in their immediate vicinity. New features include information about California Marine Protected Areas, PORTS® (Physical Oceanographic Real-Time System) tide and weather data and the ability for the public to report whale sightings to databases that NOAA and whale biologists use to map whale habitats and migration patterns.

“Whales are important both ecologically and economically, but they continue to face a variety of threats including ship strikes,” said Michael Carver, deputy superintendent of Cordell Bank National Marine Sanctuary. “Whale Alert allows citizens to provide data scientists can use to inform management and better protect whale populations.”

Slow-moving whales are highly vulnerable to ship strikes, since many of their feeding and migration areas overlap with shipping lanes. In 2007, four blue whales were killed by confirmed or likely ship strike in and around the Santa Barbara Channel. NOAA Fisheries declared this an Unusual Mortality Event. In 2010, five whales (two blue, one humpback and two fin whales) were killed by confirmed or likely ship strikes in the San Francisco area and elsewhere along the north-central California coast.

"Ship strikes kill and injure large whales. Whale Alert will help mariners and all of us protect these magnificent creatures," said Patrick Ramage, Whale Program director at the International Fund for Animal Welfare, one of the lead collaborators on Whale Alert.

Whale Alert has been developed by a collaboration of government agencies, academic institutions, non-profit conservation groups and private sector industries, led by NOAA’s Office of National Marine Sanctuaries. Collaborating organizations include Bioacoustics Research Program at Cornell University, Cape Cod National Seashore, Center for Coastal and Ocean Mapping at the University of New Hampshire, Conserve I.O., Excelerate Energy, EOM Offshore, International Fund for Animal Welfare, Massachusetts Port Authority, NOAA Fisheries, National Park Service, Point Blue Conservation Science, U.S. Coast Guard and the Woods Hole Oceanographic Institution, as well as shipping industry representatives.

Whale Alert data collected by citizen science and scientists are currently available online at the Whale Alert - West Coast website. “More is usually better when it comes to data,” said Jaime Jahncke, Point Blue Conservation Science lead on the project. “Whale Alert allows us to crowd source data collection, so that as scientists we have more information available to help protect whales from ships.”

Whale Alert can be downloaded free of charge from Apple’s App Store,
at https://itunes.apple.com/us/app/whale-alert-reducing-ship/id911035973?ls=1&mt=8

More information on Whale Alert and the groups responsible for its development can be found
at http://www.whalealert.org

5. On Santa Cruz Island, rising seas present archaeological emergency

By Louis Sahagun
Los Angeles Times
August 16, 2014

Achaeologist Torben Rick watched with frustration as pounding surf clawed at one of North America's oldest homesteads, a massive heap of village foundations, cutting tools, beads and kitchen discards left behind over the last 13,000 years.

Here, seafaring tribal members cast fishing nets from canoes made of redwood planks, prepared dinners on stone griddles, and painstakingly chipped out tiny shell beads prized as currency.

But unless something is done, this rich trove of Native American history and several others on the island will almost certainly be destroyed by rising seas and strong storm surges along beaches that will soon no longer exist.

Rick, curator of anthropology at the Smithsonian's National Museum of Natural History, picked up a tiny pink bead.

"Things like this are golden because they can help us better understand the people who lived here and how they dealt with some of the same unstoppable forces we face today," he said. "The trouble is, a few more storms and all this valuable history will be washed out to sea."

So conservationists and archaeologists are fighting back. Half a dozen scientists armed with trowels, clipboards and global positioning devices fanned out across the island's headlands and rocky fingers earlier this month to take the first full accounting of archaeological sites heavily threatened by shoreline retreat and storm erosion.

The inventory will create baseline information to help guide conservation decisions at imperiled sites where human culture and island ecosystems have a shared history. It will also enable scientists to monitor the destructive forces of marine erosion, which are predicted to get worse.

The archaeological assessment is a collaborative effort by the Smithsonian Institution, the University of Oregon, Chumash tribal leaders and the Nature Conservancy, which manages 76% of the 96-square-mile island, the largest of eight Channel Islands, 36 miles off Ventura.

"The real tragedy, and the urgency, is that sea level rise is destroying wholesale the opportunity to learn about our past — information we can use to be better conservationists," said Scott Morrison, the Conservancy's director of conservation science. "We're trying to do something about that."

Dozens of sites, including former villages and workshops, were assigned one of five risk categories based on variables including elevation, distance to the nearest shoreline, coastal slope, soil erosion and precipitation rates.

Eight sites were designated "code red," meaning they contain significant archaeological resources and are in imminent danger of being destroyed by rising seas.

Among them is a remote cave where the team conducted an "emergency archaeological rescue" of artifacts entombed beneath thick layers of sand and driftwood: arrowheads, crude stone implements, rope and fabric woven out of sea grass.

Also recovered in the cave was a square piece of redwood smeared with brown tar, used to repair a hole in a canoe**.**

"The last time one of these planks was found was in the 1960s," said Jon M. Erlandson, an archaeologist at the University of Oregon and expert on Santa Cruz Island's cultural resources.

The plank is a reminder of a time when the coast teemed with fish, waterfowl and shellfish "and the shoreline was a lot further away than it is now," Erlandson said.

"There's not enough time to save everything," he said. "We're trying to record and salvage all we can before it's too late."

At a site near the cave, at least three Chumash house pits discovered within the last 40 years have been destroyed by the ocean.

The destruction eliminated the possibility that DNA and isotopic analyses could provide important information about changes in island culture and the landscape, Erlandson said.

Rising sea levels between 7,000 and 15,000 years ago submerged much of the evidence of the island's earliest occupants, seafarers who arrived when pygmy mammoths lumbered through inland forests at the end of the last ice age.

Their descendants flourished amid the rich marine environment. In 1542, explorer Juan Rodriguez Cabrillo counted several densely populated villages as he sailed past, and there were many more he didn't see.

The job of surveying evidence of their existence over centuries was complicated by the relatively large size of the island and the diversity of its largely roadless terrain: plunging valleys, conifer forests, steep mountains and wind-swept beaches.

Bringing a four-wheel-drive truck to an abrupt stop after wiggling along a rocky road for two hours, Rick said, "Let's go for a walk."

Moments later, he and Gil Unzueta, a Chumash Indian monitoring the survey effort, were striding toward the eroding remnants of an ancient settlement and refuse heap that was falling into the sea.

"We're standing on a living history book," Unzueta said. "And we're losing pages from it every day."

6. Community forum dives into benefits of slowing cargo ships

By Erin Lennon
Lompoc Record
September 10, 2014

Experts presented a win-win scenario at the Cabrillo Pavilion Arts Center in Santa Barbara on Wednesday, breaking down how the first months of a trial incentive program to slow cargo ships in the Santa Barbara Channel has made the area's marine highway a cleaner and safer place for people and wildlife while maintaining industry support.

"It's simply the right thing to do," said T.L. Garrett, vice president of the Pacific Merchant Shipping Association. "I don't think there's anybody in this room, and there's not too many people I know anywhere, who think improving air quality and protecting marine species isn't of the utmost importance."

The program, spearheaded by a coalition of government, nonprofit and industry groups, kicked off the incentive program July 1 after years of preparation and planning. This trial program offers six shipping companies $2,500 for every verified trip one of its participating ships makes through the Santa Barbara Channel while traveling at 12 knots or less. That's a marked reduction from the average 14 to 18 knots that ships usually travel through the channel.

The Ventura County Air Pollution Control District Board voted to join the Santa Barbara County Air Pollution Control District, NOAA's Channel Islands National Marine Sanctuary and the Environmental Defense Center in the program Tuesday, bringing with it another $30,000. The program's total funding is now $90,000, which means it can accommodate 32 trips, doubling the 16 trips that the coalition could have previously funded.

But the coalition and the industry agree that the program comes down to data and measurements, though finding ongoing funding is also at the top of the list.

"The more complex issue, though, is that we need management decisions based on sound science," said Garrett. "The voluntary (vessel speed reduction) program is an opportunity for us to expand our understanding of the relationship between vessel traffic, air emissions and the potential to enhance protection of endangered and protected species along the coast."

Researchers from UC Riverside also found some financial reasons to slow down, aside from the $2,500, which Garrett said barely covers the risks shippers take of missing appointments and deadlines by slowing down. Simply, they found that slowing down helps shippers save on fuel.

But J. Wayne Miller, Ph.D., one of the UC Riverside researchers, illustrated how slowing these ships could also lead to cleaner air. As is, this marine traffic contributes a large portion of the area's air pollutants, including sulfur dioxide, greenhouse gases and other toxic pollutants.

"Clearly, both criteria pollutants, NOx and (particulate matter), and greenhouse gases, particularly CO2, they're reduced," said Miller. Regionally, carbon dioxide emissions, a major greenhouse gas, would be reduced by about 61 percent, with nitrogen oxides, which contribute to global warming, being cut by 56 percent.

While these pollutants may decrease, the chances that a whale will survive a ship strike increases as the ships slow down.

"In our attempt to protect endangered whales, we're also protecting ourselves," said Sean Hastings with the Channel Islands National Marine Sanctuary.

The Santa Barbara Channel is home to more than 30 marine mammal species, including the endangered blue whale, fin whale and humpback whale.

The program runs through October, specifically coinciding with the emissions-heavy summer months when large, endangered whales have historically made their way into the channel.

7. Google Maps Tackles the Underwater World with 'Street View'

By Mary Nichols
Design & Trend Contributor
Aug. 14, 2014

Soon, you'll be able to see more than streets on Google's Street View app. Google is working with the U.S. government scientists on a project that will allow people to get a 360-degree view of underwater locations through its Street View app, writes Tech Times.

Scientists are using specialized fisheye lenses to capture underwater images including coral reefs for the special project. The images available are currently concentrated in the Florida Keys, but the researchers are planning to document other marine sanctuaries from around the world in the upcoming weeks. Some of the images are already available for viewing with Google Maps, Associated Press reported.

'This allows people who can't get underwater to understand what we mean by putting up a special preservation area around this particular spot,' Mitchell Tartt, chief of the conservation science division at the National Oceanic and Atmospheric Administration's Office National Marine Sanctuaries, said in a statement.

To date, there have been 400,000 images captured from the Caribbean Sea and Australia. The current project marks the first time the technology will be introduced into the United States, writes Tech Times. The pictures captured from the U.S. waters will help scientists map the devastation caused by global warming, monitor changes in the ocean's temperatures and study the effect that natural disasters such as hurricanes pose on the coral reefs.

A camera that can cover up to 20 times more range than a conventional camera captured the images, writes Tech Times. Catlin Seaview Survey and Google funded the project, which including the cost of training of six NOAA officers and camera equipment.

The project will most likely increase public appreciation of these overlooked marine ecosystems, but it will also aid in scientific research and preservation efforts. The project partners plan to snap underwater candid photos across the globe - with the next stop planned in Southeast Asia.

8. Underwater Meadows Might Serve As Antacid for Acid Seas

By Christopher Joyce
Source: NPR
July 15, 2014

The world's oceans are changing — chemically changing. As people put more carbon dioxide into the atmosphere, the oceans absorb more of it, and that's making the water more acidic.

The effects are subtle in most places, but scientists say that if this continues, it could be a disaster for marine life.

In fact, some scientists have taken a glimpse of what a more acidic ocean might look like. Kristy Kroeker, a marine biologist at the University of California, Davis, has dived down to vents in the ocean floor where CO2 seeps up into the water column. "It's like you're swimming through a glass of champagne where there are bubbles coming up all around you," she says — but with a shot of vinegar thrown in. And the effects of that acidity are nasty.

"It's really striking," says Kroeker. "And it's not, I think, what people want their oceans to look like. The algae tends to overgrow just about everything, so you get a more monotone, green, slimy ecosystem."

These are natural seeps, not man-made acid baths, and the rest of the world's oceans aren't nearly that bad. But even small increases in acidity already are having subtle effects — for example, on shellfish. "It takes more energy for these animals to build their shells in more acidic conditions," says Kroeker. "These are things like oysters, or mussels or snails." Anything that uses calcium to build its body — from tiny floating snails called pteropods, to giant coral reefs — suffers when water gets acidic. And, by extension, anything that needs them for food suffers, too.

Kroeker recently reviewed 228 studies of ocean acidification and says there's a lot of variety in how marine organisms respond to acidity. Some do OK, others don't. And that's somewhat hopeful, she says. It has led scientists to find out which plants and animals are the hardiest, and how to protect those that aren't.

In California they've found nearly ideal places to do that: the nation's largest network of coastal reserves. There are 124 protected marine areas along the California coast. Some hug the shore, and some are miles out to sea. You can't drill or develop in any of them, and you can't fish in about half of them.

Mark Carr, an ecologist at the University of California, Santa Cruz, says these areas were intended to be fish nurseries and aquatic wilderness. "You're protecting the sources of young that are replenishing those populations along the coast," he explains. So far, the network seems to be helping some species — lobster and blue rockfish, for example.

But now Carr and other scientists say these protected areas also can be natural laboratories where scientists can study the global threat of ocean acidification.

Here's why: When something affects marine life in the ocean, it's often hard for scientists to pinpoint the cause. "When they see changes in the size of fish

populations," Carr says, "to what extent is that driven by fishing, or to what extent is that driven by changes in the ocean climate?"

But if fishing is prohibited, as it is in some reserves, then scientists know to look for some other cause of the decline or shift in the type of marine life. Maybe acidification is affecting a link in the food chain — intervening anywhere from plankton at the bottom, up to tuna at the top.

The value of reserves isn't lost on fishermen, either. Some who first fought the idea of reserves, like Bruce Steele, now embrace them. Steele has dived for sea urchins for 40 years in California waters. "You have to have someplace to look where you can filter out the fishing influence," he says. "Otherwise, it's so much easier to just blame us. You could just say, 'It's just the fishermen, we're not really going to take care of these problems.' "

This summer, a group of scientists from the University of California, Santa Barbara selected a protected area for acidification research.

I joined them aboard the Shearwater, a 55-foot catamaran operated by the National Oceanic and Atmospheric Administration. They're focusing on the region around Santa Cruz Island, which is surrounded by several protected areas.

Why this island? Because the underground meadows of sea grass here (also called eel grass), do something very curious: They seem able to neutralize acidity. "Sea grass beds absorb CO2 and they can buffer acidification," says UCSB biologist Jay Lunden. "And that's why ... we want to know where the sea grasses actually are."

The scientists hope the meadows could be refuges for sea life trying to escape acidic water.

Ninety minutes by boat from the coast, Santa Cruz Island is a menagerie of sea life. Team leader Gretchen Hofmann says the plants and animals here have evolved to live in this particular environment, and are very sensitive to changes in the chemistry of seawater here. If the water becomes more acidic, they'll show it — like living litmus paper.

"This isn't just some esoteric little exercise," Hofmann says, "because we know that organisms are very fine-tuned and adapted to what they've experienced historically in the environment."

Once the boat is anchored near the island, the team lowers a video camera overboard, looking for eel grass. They watch from a big screen in the cabin. Meanwhile, another group motors back and forth above the area in a Zodiac dinghy, taking water samples to check for acidity. It's slow going and wet, but a curious sea lion offers some amusement as it swims up to the dinghy to investigate.

Measurements taken above the underwater meadows should show whether the grasses are sufficiently able to raise the pH (i.e., reduce the acidity) of the water. The project is what scientists call "laying the groundwork." It will take years and thousands of such measurements to see whether these fields of eel grass can help in a meaningful way.

Hofmann says there's a lot at stake. Even if all the open oceans are vulnerable, she says, some regions along coastlines might be defensible. "We want to do something to protect our backyard, our part of the ocean," she says. "And we are realizing that if these beds of eel grass are good and that they buffer future changes in acidity, we should be protecting them, or maybe even restoring them."

Or even planting them — something scientists are experimenting with now. In so doing, they could create refuges for fish and plants in an increasingly hostile world — safe places where, as local fishermen sometimes say, the water stays "sweet."

9. Ventura County joins efforts to cut air pollution and protect whales

Ventura County Star
September 9, 2014

The Ventura County Air Pollution Control District board Tuesday approved $30,000 to support a pilot program to reduce air emissions from ships.

Shipping companies can receive a small financial incentive for reducing speeds to 12 knots or less as they move through the Santa Barbara Channel.

Doing so can significantly cut emissions of several air pollutants that blow onshore into Ventura and Santa Barbara counties, officials said. It also reduces the chance that whales will be killed if struck by a ship.

The Santa Barbara County Air Pollution Control District, Channel Islands National Marine Sanctuary and the Environmental Defense Center worked together to develop the program, modeled after a similar one at ports of Los Angeles and Long Beach.

The groups launched the pilot program July 1 with funds from the Santa Barbara Foundation and the Santa Barbara Air Pollution Control District. Officials, however, got more interest from shipping companies than they could initially fund.

The Ventura County board's additional funds will help expand the speed reduction incentive program, officials said.

For more information, visit the Santa Barbara County Air Pollution Control District website.

10. Dead whale floats in at naval base

By John Scheibe

Scripps Media, Inc.
Jul 30, 2014

The body of a 40-foot whale floated into the port at Naval Base Ventura County Port Hueneme overnight Tuesday, authorities said Wednesday.

Authorities suspect the animal is a finback whale. When fully grown, finback whales can reach nearly 90 feet in length, making them the second-longest animal in the world. The species is listed as endangered, according to the National Oceanic and Atmospheric Administration.

The whale appeared to have been dead for some time and may have been struck by a ship, Kimberly Gearhart, a public affairs officer with the base, said Wednesday afternoon.

Navy officials contacted NOAA about the dead whale, something Gearhart said is required.

Biologists from the National Marine Fisheries Service, a division of NOAA, arrived Wednesday to assess the situation, according to a statement Wednesday from the Navy.

The carcass was secured to a wharf.

Gearhart said biologists likely would take it to a nearby beach where they would try to determine exactly how the death occurred. This will include taking tissue samples.

They later will tow the carcass back to sea, likely 25 miles offshore, far enough so ocean currents do not bring it back to shore, she said.

Whales are often seen swimming off the Ventura County coast, making whale-watching boat rides a popular draw for visitors.

However, whales also can suffer distress in the area. That was the case earlier this year when a young humpback whale got entangled in fishing gear. After tracking it for weeks, a team finally freed it in June after it approached the Channel Islands. Cinched line had cut several inches into its tail.

11. Blue whales off coast could be protected by new shipping lanes

David Perlman
SF Gate
Thursday, July 24, 2014

Blue whales, the largest animals that ever lived, congregate every year in their feeding grounds off Northern California to gulp krill by the ton, but the gathering puts them in the path of peril from heavy freighter traffic along major shipping lanes, scientists have found.

Researchers learned the migration patterns of the endangered whales along the Pacific Coast and pinpointed just where they typically pause to forage during 15 years of tracking them by radio and satellite.

Now the new information could lead to changes in the routes ships take from the open sea to California ports and to better protection for the whales, say marine biologists at Oregon State University's Marine Mammal Institute.

"We've pointed out that our new data should be useful to the shipping industry and to the various agencies concerned with the lanes that lead to San Francisco and Los Angeles," said Bruce Mate, the

institute's director and one of the study's principal authors. "But we're not out beating the drums, because it's not our job to decide how those lanes should be moved. That's up to all the stakeholders."

To determine the whales' migrations and feeding patterns, Mate and Ladd Irvine, a researcher at the Marine Mammal Institute and the study's other principal author, led a team of marine biologists who used crossbows and air-powered guns between 1993 and 2008 to shoot satellite tags painlessly into the thick, blubbery hides of 171 blue whales.

The tags allowed the scientists to follow the whales' movements for weeks, and sometimes for months at a time, before the tags fell off. In one case, Irvine said, a whale they tagged near the Farallon Islands in summer 2004 enabled them to observe it for a year during frequent satellite observations.

The whale migrated across thousands of miles, first swimming from the Farallones to the Channel Islands in Southern California, then south to breeding grounds off Mexico and Costa Rica. It returned to the Channel Islands the following spring and then moved between the Farallones and the Channel Islands until it finally swam up to Cape Mendocino off the Humboldt County coast as it followed rich masses of krill.

"For the first time, we were able to document where that whale went from year to year, which is pretty unprecedented," Irvine said.

The researchers estimated that about 2,500 of the huge marine mammals currently migrate along the coasts of California, Oregon and Washington. But with both northern and southern shipping lanes crossing their major feeding grounds, they suggested that moving the shipping lanes could diminish threats to the whales.

Although specific numbers of fatalities are hard to determine, "slow-moving whales are highly vulnerable to ship strikes," according to the National Oceanic and Atmospheric Administration. Most whale deaths within the lanes happen inside the Gulf of the Farallones National Marine Sanctuary, where ships pass on their way into and out of the Golden Gate, and further south along another heavily used set of shipping lanes just off the northern Channel Islands in Southern California.

Whales are attracted to the areas, which lie within 200 miles of the coast, by the tiny shrimp-like, protein-rich crustaceans known as krill, which are brought to the surface by the California current's upwelling waters.

"It appears that both of their main foraging areas are coincidentally crossed by shipping lanes," Irvine said. It's where they "maximize their food intake during the summer before they migrate south for the winter to breed and calve."

Their study, which was published Thursday in the journal PlosOne, noted the constant dangers ships pose to blue whales and other whale species. In 2007, they recalled, five dead whales were found floating near the Channel Islands ship traffic area. Three were confirmed as deaths from ship strikes, and the cause of death for the others remains unknown.

A NOAA report in 2013 also noted that in 2010, five whales were killed in collisions with ships in Northern California traffic.

Changes in the shipping lanes leading through the National Marine Sanctuaries on the West Coast were altered most recently in June 2013, according to the NOAA, which works with the Coast Guard and the

shipping industry to oversee ship traffic within the sanctuaries. The changes were ordered in part to protect endangered whales, the agencies said at the time.
Ships are not required to observe the lane boundaries, a Coast Guard spokeswoman said, but their captains are glad to follow them to avoid traffic congestion.

Blue whales - Balaenoptera musculus - are larger than the largest dinosaurs. They can weigh up to 170 tons and consume an average of four tons of krill daily, marine biologists say.

Only an estimated 8,000 to 9,000 are alive in all the world's oceans today. At least 36,000 were killed between 1900 and the mid-1960s before they were declared endangered by the U.S. and international agencies.

12. Commissioners oppose National Marine Sanctuary off southern Oregon coast

By Dennis Anstine
News Times
Aug. 1, 2014

Just in case a National Marine Sanctuary is ever nominated to be established off the southern Oregon coast, Lincoln County's Board of Commissioners are on the record as opposing it.

The board agreed Wednesday that it opposes "nomination, designation and creation of a proposed federally protected marine sanctuary," and would vote on a revised resolution at its Aug. 6 meeting.

Robert Bailey, a retired member of the state's Land Conservation and Development Commission, earlier this year nominated some 1,340 square miles ranging from south of Bandon to the Rogue River Reef near Gold Beach, and westward 33 miles.

Bailey later withdrew his submission, but plans to hold more public meetings with proponents of the sanctuary and possibly nominate it again later this year.

13. Can Drones Fight Illegal "Pirate" Fishing? Conservationists test unmanned aerial vehicles in Belize and California

By Brian Clark Howard
National Geographic
July 18, 2014

An estimated 20 percent of all fish hauled in around the globe are caught illegally, through a combination of fishing in restricted areas, subverting quotas and seasonal limits, and using banned gear. The fish are shipped around the world and sold to existing markets, where most buyers have no idea that the food they are purchasing is stolen goods.

The problem is especially acute in Belize, where hundreds of incidents have been reported over the past few years, according to Julio Maaz, who serves as a fisheries coordinator in Belize with the U.S.-based Wildlife Conservation Society.

In March, the European Union suspended all seafood imports from Belize, Cambodia, and Guinea, saying the countries had not acted forcefully enough to prevent illegal fishing in their waters or by vessels flagged to their countries. (See "Cell Phones Fight Pirate Fishing.")

Belize has only 70 fisheries enforcement officers to patrol its 240 miles (386 kilometers) of Caribbean coast and more than 200 islands. And with fuel prices rising, the enforcement budget has been shrinking. As a result, fishermen get away with flouting the law, says Maaz—especially crews based in nearby Honduras and Guatemala.

On June 2 the Wildlife Conservation Society began a pilot project with the U.S.-based nonprofit Conservation Drones and Belize's fisheries department. The first trials have been over the mainland, but soon the team hopes to move operations offshore, to Glover Reef.

The goal, says Maaz, is to increase Belize's ability to enforce its fishing laws by eventually launching a fleet of drones able to look for vessels that are operating in restricted reserves, fishing without the proper permits, or violating quotas or other laws.

Drones, or unmanned aerial vehicles (UAVs), have come a long way in just a few years, says Shah Selbe, a 2013 National Geographic emerging explorer who is conducting his own tests of the technology on the California coast. Drones used to be thought of as "big, scary things associated with war in Afghanistan and Iraq," he says, but now there are many smaller, relatively affordable UAVs being piloted by hobbyists.

Drones are already being employed in a number of civilian applications, including the study of hurricanes, volcanoes, wildlife populations, and wildfires. They are being used to fight looting of archaeological sites, map remote areas, manage farms, and find victims of disasters. (See "5 Surprising Drone Uses.")

Add ocean monitoring to that list. Selbe says he has heard from a number of government agencies and nonprofit organizations that are considering using drones to watch the seas.

One advantage of using drones to monitor fishing, says Maaz, is that "we have the element of surprise." The devices are so fast and small that it's hard for people to see them coming.

The devices being tested in Belize are Skywalker drones made by Ohio-based Event 38. The fixed-wing, unmanned aircraft have a wingspan of 75 inches (190 centimeters) and length of 51 inches (130 centimeters). They cost $2,400 each on the manufacturer's website.

Currently the UAVs record video that must be downloaded when they're retrieved, although Maaz says he hopes future iterations will be able to stream live video. That's technologically feasible, but the expense is beyond the project's budget.

Through ongoing tests, Maaz hopes Belizean officials will get comfortable flying the machines. He says they have already learned that they capture clearer video if they fly low to the ground.

The team members are also developing safety protocols. They want to make sure the drones won't interfere with traditional aviation.

Once the fisheries officials are ready, they'll begin flying the drones in places where illegal fishing is known to be most prevalent. Their aim is to gather video that will be useful in making arrests. Maaz hopes word of the program will help act as a deterrent.

Drones will be good for monitoring vessels, Selbe says, because they can get close enough to see what people are actually doing, unlike satellites or high-altitude reconnaissance. And they are much cheaper. They will extend the range and stealth of manned boat patrols substantially.

But what if the spies are spotted? "Drones move quickly, and they are small," says Selbe, "so they are pretty hard to shoot down." Still, he notes that he has seen "anti-drone bullets" being marketed by arms dealers, perhaps hinting at conflicts to come.

But "how much does it really matter if one goes down?" he asks. After all, they are relatively cheap, and no human beings are on board.

For drones to really take off for conservation, prices need to come down further, says Selbe. And countries need to ease tight legal restrictions on the use of drones for commercial purposes, which the U.S. Federal Aviation Administration is expected to do as early as August.

"When that happens, there will be an influx of new designs and creative solutions that people in conservation will be able to use more readily without having to be technical experts," says Selbe.

Through his Soar Ocean project, Selbe is testing the ability of fixed-wing and quadcopter drones to map the coastline along California and in the Channel Islands National Marine Sanctuary. The work is supported by the National Geographic Society and Lindblad Expeditions.

Selbe's tests have the blessing of the National Oceanic and Atmospheric Administration, which administers the sanctuary. According to spokesperson Vernon Smith, the agency is in the process of "exploring the potential of [drones] for conducting environmental observation missions, including marine life and seabird studies, oceanographic and atmospheric research, and environmental damage assessments."

But, he adds, the agency is not currently pursuing the use of unmanned aircraft for enforcement purposes in U.S. waters.

Back in Belize, Maaz says, "We're hoping other government agencies will be able to learn from what we're doing and be able to embrace the technology to its fullest."